NEWS REPORT

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NEWS REPORT

National Academy of Sciences National Research Council

VOLUME VIII *July–August 1958* NUMBER 4

The International Geophysical Year World Data Center A

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and

PEMBROKE J. HART

Head, Data Center Coordination Office

AN IMPORTANT element of the International Geophysical Year (IGY) is the mechanism for gathering and exchanging data among the participating scientific communities. At the Fifth Assembly of the Special Committee of the IGY (CSAGI) held in Moscow, July 29–August 9, 1958, one of the principal items for discussion on the agenda was the deposition and exchange of information between the three World Data Centers.

The three Centers were established to maintain collections of IGY data in accordance with the recommendations of the Third Assembly of CSAGI in Brussels in 1955. It was decided that three data centers would insure against the loss or destruction of the data and would serve the geographical convenience of scientists of all nations.

Two IGY National Committees, those of the United States and the Soviet Union, each offered to establish and maintain collections of all data. These centers were named A and B, respectively. A third center, C, has been located at institutions in Western Europe, Japan, and Australia. For several disciplines two subcenters of World Data Center C have been created and are designated C–1 and C–2.

World Data Center A

The National Academy of Sciences is responsible for the direction of World Data Center A. The Center was established with the cooperation of 11 institutions in some eight cities of the United States. The U. S. National Committee believes that the interests of science are served best by establishing subcenters for the various disciplines in the institutions which have a history of scientific interest and competence in the appropriate geophysical field rather than by establishing one central archive.

The following list shows the fields for which subcenters have been established and the institutions at which they are located:

1) *Airglow and Ionospheric Physics*—Central Radio Propagation Laboratory, National Bureau of Standards, Boulder, Colo.

2) *Aurora (instrumental observations)*—Geophysical Institute, University of Alaska
3) *Aurora (visual observations)*—Rockefeller Hall, Cornell University
4) *Cosmic Rays*—School of Physics, University of Minnesota
5) *Geomagnetism, Gravity, and Seismology*—U. S. Coast and Geodetic Survey, Washington, D. C.
6) *Glaciology*—American Geographical Society, New York City
7) *Longitude and Latitude*—U. S. Naval Observatory, Washington, D. C.
8) *Meteorology and Nuclear Radiation*—National Weather Records Center, U. S. Weather Bureau, Asheville, N. C.
9) *Oceanography*—Department of Oceanography and Meteorology, Agricultural and Mechanical College of Texas
10) *Rockets and Satellites*—National Academy of Sciences, Washington, D. C.
11) *Solar Activity*—High Altitude Observatory, Boulder, Colo.

Current Status of Data Flow

The current status of the flow of data to World Data Center A and of the interchange of data between Center A and the other World Data Centers is set forth below for each subcenter of Data Center A. The second "6-monthly" catalogue of data on hand in World Data Center A was issued on June 10, 1958. It may be noted that the flow of data most nearly approximates the CSAGI schedules in those disciplines in which there was organized international exchange of data prior to the IGY.

To date, World Data Center A has received data from 60 of the 66 nations participating in IGY; included in that figure are all of the larger nations. Data are also being received from stations and nations not formally part of IGY, and some data are being sent for times prior to the commencement of the IGY.

Airglow and Ionospheric Physics

The amount of data received in airglow projects is small at present because processing is laborious. A few months of data have been received from four nations. Some data have been sent to and received from each of the other World Data Centers. Since absolute calibration of IGY airglow photometers has now been completed, data for the first year of observations should reach the data center in the near future.

The flow of ionospheric data is immense. Data have been received from each of the other World Data Centers, and directly from 145 stations in 43 nations. Approximately 320,000 feet (61 miles) of ionogram film have been processed. The dispatch to other Data Centers of data received by Center A is fully current.

To date, 14 requests for data have been received, and several scientists have already visited Boulder, Colo., to work with the data on the premises.

In addition to the CSAGI 6-Monthly Catalogue, an interim catalogue of data in Center A for airglow and ionospheric physics was issued in April.

Aurora (instrumental)

Data from instrumental auroral studies are flowing more slowly than anticipated. More time has been required to process and reduce all-sky camera films and transmit them to the Data Center than was estimated in the CSAGI schedule. Nevertheless, at present, film has been received from 22 of the all-sky cameras operated by United States' projects.

Aurora (visual)

In the United States there are 424 active volunteer observers from whom 16,000 positive and 50,000 negative reports of auroras have been received. The U. S. Weather Bureau has furnished 20,000 positive and 300,000 negative reports. From these reports, over 1,000 auroral maps for 15-minute intervals have been drawn at the Regional Center at Cornell University.

Data for the first eight months of IGY have been dispatched to the other World Data Centers. Data have been received from Data Center C. In addition, data have been sent directly to Center A from Argentina, Canada, Cuba, Mexico, and New Zealand.

Cosmic Rays

Cosmic ray data are flowing regularly from Centers B and C to Data Center A.

Many stations send data directly to Center A. To date, 21 of the 38 nations participating in the IGY program in cosmic ray studies have sent data to the Center.

The flow of cosmic ray data during the past five months has been more than five times as great as during the first six months of IGY. Approximately one-third of the stations are up-to-date in their transmittal of data to the centers.

Geomagnetism, Gravity, and Seismology

Magnetic data have been sent to Center A from nations in the Western Hemisphere for forwarding to the other World Data Centers. No data have been received directly from the other World Data Centers; stations which send primarily to these centers send also to Center A, usually through a collecting agency.

Geomagnetic data have been received from 86 stations in 27 of the 49 nations participating in the geomagnetic program. Many requests have been received for geomagnetic data, including requests for the data from the entire chain of variograph stations in the Western Hemisphere.

The flow of gravimetric data has been small as yet. Data sent to World Data Center A include earth tide studies at three stations in Japan and one station in Hungary.

Bulletins containing seismic data have been sent directly to Data Center A from stations or national collection agencies of 22 of the 52 nations which are participating in the IGY program. The bulletins received to date include data from 165 stations.

Glaciology

The flow of data to the subcenter for glaciology has been limited to progress reports from 13 glaciological projects in Canada, New Zealand, and the United States. The basic data for the field work accomplished during the first Antarctic summer, which ended in March of this year, is being compiled and should be transmitted to the Data Centers within the next four months. This Center has issued the first volume of the World Data Center A Glaciology Report Series. This volume includes preliminary reports received by the Center prior to June 23, 1958.

Longitude and Latitude

Data from the two programs in longitude and latitude are reaching the appropriate primary data centers: astrolabe data is sent to Paris, moon position data to Washington. These data will be reduced and published by the primary data centers. The flow of moon position data began only recently because of delays in starting the observation program.

Meteorology and Nuclear Radiation

Most stations submit data on meterology and nuclear radiation directly to World Data Center C. Data from stations in the Western Hemisphere have been forwarded to Centers B and C as required.

Center A has received data from 35 nations, including microfilm for three months of data from the Soviet Data Center. A similar amount of microfilm has been dispatched to the Soviet Data Center.

The flow of data to Center A from the stations in the United States and North America alone amounts to 25,000 punched cards per day, the flow for the entire world network of stations will require about 100,000 cards per day. These data will be reproduced on Microcards by World Data Center C.

The pattern for the flow of data on nuclear radiation was established several months after the beginning of IGY. Center A has received data on nuclear radiation from 11 nations participating in this program.

Oceanography

Sea level data from 10 countries have been sent to Data Center A. Cruise reports for 39 ships have been received from nine nations. Data have been sent to and received from World Data Center B. World Data Center A has issued an interim catalogue of data received prior to April 1, 1958.

Rockets and Satellites

The portion of the CSAGI Guide to World Data Centers (1957) covering rockets and satellites was issued in April 1958. Prior to this time, very little data had been received by this Center. Because of the nature of rocket and satellite data

results, the agreed-upon timetable allows 12 months after completion of an experiment before data are expected. Thus far, data have been received at Data Center A from Denmark, Germany, Japan, South Africa, United Kingdom, United States, and the Soviet Union.

In order to make the results of rocket and satellite experiments widely available to interested scientists, Data Center A initiated two series of reports: one for rockets and one for satellites. Six issues of the satellite series and one issue of the rocket series containing preliminary data have been published. Some preliminary and informal reports have been received from the U. S. S. R., describing their satellite experiments and early results.

Solar Activity

Data flow very promptly in this discipline. Center A has received data from 24 of the 36 nations participating in the solar activity program. In addition to the telegraphic data, written and tabulated reports are received regularly and promptly. Monthly lists of solar flares are dispatched by the 7th of the following month.

As part of the intermediate publication of data, Center A has published three numbers in the Solar Activity Report Series under the title "Intermediate Reports of Surges and Active Prominence Regions" covering the months from July 1957 to March 1958.

Reports

In addition to the reports issued by the individual subcenters, an IGY General Report Series has been established by World Data Center A. To date, three numbers have been published by the National Academy of Sciences. The first volume of this series is "Description of the Antarctic Circulation Observed from April to November 1957 at the IGY Antarctic Weather Central, Little America Station," (Washington, D. C., 1958). The report is the work of Vladimir I. Rastorguev of the U.S.S.R. and José A. Alvarez of Argentina, who spent one season at Little America. The second volume of the IGY General Report Series is the "Preliminary Report on Expedition Downwind" made by the Scripps Institution of Oceanography of the University of California to the Southeast Pacific. The third volume includes three preliminary reports on the gravity and seismic programs at the University of Wisconsin prepared by George P. Wollard.

Through their reports, as well as through the basic data which they will hold available, these World Data Centers will provide the materials with which scientists will work for years to come, not only in many disciplines but in inter-disciplinary fields as well.

SCIENCE NEWS

SPACE SCIENCE BOARD

Detlev W. Bronk, President of the National Academy of Sciences, has announced the formation of a 16-man Space Science Board "to survey in concert the scientific problems, opportunities, and implications of man's advance into space." Lloyd V. Berkner, President of Associated Universities, Inc., and President of the International Council of Scientific Unions, has been named chairman. Hugh Odishaw, Executive Director of the U. S. National Committee for the IGY, has been named executive director of the new Board.

Besides acting as the focal point for all Academy–Research Council activities connected with space-science research, the Board will be called upon to coordinate its work with appropriate civilian and government agencies, especially the National Aeronautics and Space Administration, the National Science Foundation, and the Advanced Research Projects Agency, and with foreign groups active in this field. The functions of the Board will include studies of scientific-research opportunities and

needs opened up by the advent of modern rocket and satellite tools, advice and recommendations on space science to interested agencies and institutions, and stimulation of research interest in the rocket and satellite fields, and cooperative activities in this area with Academies and similar institutions abroad.

Eleven ad hoc committees have already been organized to carry on the work of the Board under Dr. Berkner's leadership. The Chairmen and Vice Chairmen, who comprise the membership of the Board, are as follows:

1—Geochemistry of Space and Exploration of Moon and Planets

HAROLD C. UREY, University of California at La Jolla

HARRISON S. BROWN, California Institute of Technology

2—Astronomy and Radio Astronomy

LEO GOLDBERG, University of Michigan

3—Future Vehicular Development

DONALD F. HORNIG, Princeton University

4—International Relations Field

W. A. NOYES, University of Rochester

5—Immediate Problems

R. W. PORTER, Chairman of the U. S. National Committee IGY Technical Panel on the Earth Satellite Program and consultant, Communication and Control, Engineering Services, General Electric Company.

6—Space Projects

BRUNO B. ROSSI, Massachusetts Institute of Technology

7—Ionosphere

A. H. SHAPLEY, National Bureau of Standards, Boulder, Colo.

8—Physics of Fields and Particles in Space

JOHN A. SIMPSON, University of Chicago

JAMES A. VAN ALLEN, State University of Iowa

9—Future Engineering Development Beyond Available Facilities

O. G. VILLARD, JR., Stanford University

10—Meteorological Aspects of Satellites and Space Research

HARRY WEXLER, U. S. Weather Bureau

11—Psychological and Biological Research

H. KEFFER HARTLINE, Rockefeller Institute for Medical Research

S. S. STEVENS, Harvard University.

The twelfth committee on geodesy will be organized shortly.

U. S. NATIONAL COMMITTEE INTERNATIONAL UNION OF BIOCHEMISTRY

The first meeting of the U. S. National Committee for the International Union of Biochemistry (IUB) was held Saturday, April 12, at the Academy–Research Council building with Richard H. Barnes of Cornell University, Chairman of the Committee, presiding. Plans for the Third General Assembly of IUB and the Fourth International Congress of Biochemistry to be held in Vienna, September 1–6, were reviewed. The Committee discussed various items that should be considered at the General Assembly, such as an increase of annual dues, a proposed program of additional activities to be undertaken by the Union, and a revision of the Statutes of the Union.

Upon the recommendation of the Committee, the following persons were designated Academy–Research Council delegates to the forthcoming General Assembly: Severa Ochoa, New York University Bellevue Medical Center, *Chairman;* John M. Buchanan, Massachusetts Institute of Technology; Sidney W. Fox, Oceanographic Institute of Florida State University; and Elmer Stotz, University of Rochester School of Medicine and Dentistry.

INTERNATIONAL GEOGRAPHICAL CONGRESS

The five Nordic countries—Denmark, Finland, Iceland, Norway, and Sweden—will be hosts to the 19th International Geographical Congress which will be held in Stockholm, August 6–12 (13), 1960, before the International Geological Congress (*see* p. 71). The first circular, which was published in the *IGU Newsletter* (Vol. IX, No. 1) contains the preliminary program and gives information about the costs of participation in the symposia and the excursions planned for before and after the formal Congress sessions. Particular attention will be paid to phenomena and problems pertinent to the geography and geographic research of the Nordic countries and similar areas.

The First Circular may be obtained by writing International Geographical Congress, Postfack, Stockholm 6, Sweden.

NATURAL SCIENCES PROGRAM OF UNESCO

The fifth session of the International Advisory Committee on Research in the Natural Sciences was held in Moscow, May 6–8. Wallace W. Atwood, Jr., Director of the Office of International Relations of the Academy–Research Council and chairman of the Committee, presided: The following persons attended:

Members of the Committee:

W. E. Ankel (Germany)
L. Cepek (Czechoslovakia)
J. Coulomb (France)
F. Giordani (Italy)
J. G. Malloch (Canada)
Sarwono Prawirohardjo (Indonesia)
S. Siddiqui (Pakistan)
N. M. Sissakian (U.S.S.R.)
M. S. Thacker (India)

Representatives of Member Organizations:

L. Cambournac (UATI)
J. Maisin (CIOMS)
Sir Harold Spencer-Jones (ICSU)

Observers:

M. Ivanov (WMO)
G. L. Kesteven (FAO)
E. Kohn (WHO)

Unesco Secretariat:

P. Auger, Director, Department of National Sciences
J. A. Mussard, Department of National Sciences
J. Kovalsky, Department of Mass Communication
S. Shumovsky, consultant

The Committee took the following actions with respect to items on the agenda:

1) *Arid Zones Program*—Recommended that the Member States of Unesco consider ways and means to continue the important research and international cooperation on arid zone problems after the termination of the major project on arid zones currently sponsored by Unesco. The Committee felt that national research councils should play an important role in this respect.

2) *Marine Sciences Program*—Recommended that the inter-governmental conference which will meet in 1960 to discuss the commissioning and operation of a vessel for research and training purposes, consider the possibility of starting immediately an interim program of oceanographic research and training through contracts with appropriate institutions. The Committee suggested that special attention be given to research in physical oceanography.

Noted with satisfaction the effective collaboration between Unesco and FAO and recommended that participation by FAO should be sought in the future expansion of the program with regard to training, research, and publications; recommended that permanent contacts be maintained between the International Advisory Committee on Marine Sciences (IACOMS) and the Special Committee on Oceanic Research (SCOR); and recommended that a symposium dealing with research on the radioactivity in marine waters and on the problem of their contamination by radioactivity be organized in conjunction with the IACOMS meeting in 1959.

3) *Cell Biology*—Approved the proposal to convene an international conference on the biological effects of ionizing radiations in 1960 in cooperation with WHO and competent international scientific organizations.

4) *Semi-Conductors*—Recommended that in consultation with the International Union of Pure and Applied Physics and other competent scientific organizations Unesco explore the possibility of holding an international conference on semi-conductors.

5) *International Geophysical Year*—Recommended that Unesco provide support in the 1959–60 budget for the publication activities of the International Secretariat for the International Geophysical Year.

6) *Termination of Unesco Assistance to Specific Projects*—Observed that Unesco's task is to initiate international collaboration in essential fields of scientific research and not to bear permanent responsibility for financing international research projects; and indicated that as a general rule no support for a given project should be continued beyond four years, if by that time there is no prospect of the project being operated independently.

The Committee accepted an invitation from Professor Ankel to hold its sixth session in Giessen, Germany, in May 1959 and recommended that a meeting of directors of national research councils be held in conjunction with that session. Dr. Atwood was re-elected Chairman of the Committee.

INTERNATIONAL CONFERENCE ON SCIENTIFIC INFORMATION

The program for the International Conference on Scientific Information, which is scheduled to be held in Washington, D. C., at the Mayflower Hotel, November 16–21, is in its final stages of development. On the evening of Sunday, November 16, the Conference will be opened officially with an address by Sir Lindor Brown, Secretary for Biological Sciences, The Royal Society. Detlev W. Bronk, President of the National Academy of Sciences, will be the chief speaker at the banquet on Wednesday evening, November 19.

A total of 75 papers prepared by 98 authors and co-authors has been accepted and printed for distribution to all participants and registered observers in advance of the Conference. These papers will serve as a basis for panel discussions, arranged according to the seven areas of the program agenda.

The area titles and panel discussion leaders are as follows:

Area 1—Requirements of scientists for scientific literature and reference services: knowledge now available and methods of ascertaining their requirements.
Panel leader: Philip Morse, Massachusetts Institute of Technology

Area 2—The function and effectiveness of abstracting and indexing services for storage and retrieval of scientific information.
Panel leader: Elmer Hutchisson, American Institute of Physics

Area 3—Effectiveness of scientific monographs, compendia, and specialized information centers in meeting the needs of scientists: present trends and new proposed techniques and types of services.
Panel leader: Alexander King, European Productivity Agency

Area 4—Organization of information for storage and search: comparative characteristics of existing systems.
Panel leader: Eric de Grolier, Centre Français d'Echanges et de Documentation Techniques

Area 5—Organization of knowledge for storage and retrospective search: intellectual problems and equipment consideration in the design of new systems.
Panel leader: Gilbert W. King, I.B.M. Research Center

Area 6—Organization of knowledge for storage and retrospective search: possibility for a general theory of storage and search.
Panel leader: John W. Tukey, Princeton University

Area 7—Responsibilities of governmental bodies, professional societies, universities, and research and industrial organizations to provide improved information services and to promote research in documentation.
Panel leader: Verner Clapp, Council of Library Resources

Also in attendance at the Conference will be approximately 500 observers from some 20 foreign countries who already have registered. In addition to the program discussion sessions, several excursions are planned to such installations as the National Bureau of Standards, the Library of Congress, and other agencies engaged in activities relevant to the Conference program. The Conference will close with a reception for participants at the National Academy of Sciences on Friday evening, November 21.

VISIT OF YOGORO KATO

Early in July, Yogoro Kato, Dean of the Faculty of Technology, Shinsu University, and Professor Emeritus of Tokyo University of Technology, visited the Academy–Research Council. Supported by a grant from the Asia Foundation, Dr. Kato spent five weeks in the United States to discuss with U. S. scientists and science educators the advancement of graduate level science education in Japan.

The Office of International Relations arranged for Dr. Kato to visit American scientists at the National Bureau of Standards, the Naval Research Laboratory, the National Science Foundation, and the American Chemical Society. Dr. Kato was particularly concerned with developing in the younger Japanese scientists the capabilities of creative and original research, as well as training graduate students in leadership teaching.

Following a luncheon given in his honor by the Academy–Research Council, Dr. Kato was briefed by members of the Academy staff and invited representatives of other scientific institutions in Washington on the work being done in science education in the United States.

On his return Dr. Kato plans to organize teacher-student groups using the facilities of the smaller provincial Japanese colleges and universities in the fields of chemistry and electronics.

ADVISORY COMMITTEE ON SCIENCE DEVELOPMENT

Under the joint sponsorship of the Organization of American States and the Academy–Research Council, the Advisory Committee on Science Development of the Organization of American States (OAS) held its first meeting, June 17–20, at the Academy–Research Council building. Eighteen scientists from Latin America and the United States, chosen on the basis of their personal qualifications in the fields of physics, chemistry, mathematics, and other natural sciences, attended the 4-day meeting. Observers from the major international and Inter-American scientific organizations, foundations, and other interested agencies were also invited to attend.

The following committee members were present:

RAFAEL PICO (Puerto Rico), *President*
LLOYD V. BERKNER (United States)
CARLOS CHAGAS (Brazil)
IGNACIO CHÁVEZ (Mexico)
RALPH E. CLELAND (United States)
H. FERNANDEZ-MORÁN (Venezuela)
JOSUÉ GOLLÁN (Argentina)
JUAN GÓMEZ MILLAS (Chile)
CARLOS GRAEF FERNÁNDEZ (Mexico)
WALTER S. HILL (Uruguay)
C. MANSUETO G. LATTES (Brazil)
CINNA LOMNITZ (Chile)
OSCAR MARÍN MONTECINOS (Chile)
ENRIQUE PÉREZ ARBELÁEZ (Colombia)
FEDERICO RUTLLAND (Chile)
LUIS A. SANTALÓ (Argentina)
S. S. STEINBERG (Brazil)
MERLE TUVE (United States)

The purpose of the meeting was to advise the OAS on its future scientific program. The agenda, based on a survey conducted during 1957, covered five main areas: *1*) scientific education, 2) scientific research, 3) scientific institutions, *4*) scientific communications, and 5) scientific program for the OAS.

The Committee reviewed the entire picture of science in the Americas and outlined the needs of the Latin American countries where scientific development has not kept pace with that of the United States. The group prepared recommendations for the improvement of scientific education at both secondary and university levels, the strengthening of scientific institutions, the exchange of scientific personnel and information, publication and distribution of scientific material, for establishing a science organization within the OAS, and for the establishment of national research councils.

Typical of the practical recommendations formulated by the Committee are those concerned with scientific education. Here they directed their attention first of all to the secondary schools. These they considered to be key to the development of the largely dormant scientific potential of Latin America. The Committee urged improvement of the science training being given to high school students by improvement of the teaching ability of the teachers themselves, and suggested that refresher courses be given for the teachers where they would become acquainted with new didactic methods, new teaching aids, and new approaches to their subjects. They endorsed science fairs, talent searches, and the production of cheap science kits.

In the higher levels the Committee stressed alike the importance of basic and applied research. Here they recommended directed roundtable discussions with university professors as the principal participants, and special symposia on selected topics to which international experts would be invited.

The importance of the strengthening of existing institutions was repeatedly emphasized. The Committee was quite aware that it would take much time and effort to raise the level of all science teaching and training in all institutions. Therefore, it recommended that special attention be devoted to those universities and laboratories which already possess the basic nucleus of a top-flight organization but which need additional specialists and facilities in order to become model institutions. Once strengthened, the Committee felt that they could serve their own community and even become regional in scope by training qualified young scientists from neighboring countries while their own universities were being improved. In other recommendations the need for the establishment of science faculties was highlighted, the poverty of many university laboratories was held up for constructive criticism, and the paucity of those well equipped was singled out. The im-

portance of adequate financing and endowment by both public authority and private donors also received the Committee's careful attention.

Spanish and English texts of the full report may be obtained from the Pan American Union.

AMERICAN WOMEN PHYSICIANS VISIT U.S.S.R.

The delegation of six American women physicians returned on June 15 from a four-week visit in the Soviet Union. This was the return group corresponding to a delegation of six Soviet women physicians who visited the United States last October. The exchange was sponsored by the U. S. Department of State and the Rockefeller Foundation and was administered by the Academy–Research Council. Helen Taussig, of the Johns Hopkins University Medical School, served as chairman of the delegation (*see* NEWS REPORT, Vol. VIII, p. 29).

The itinerary of the group included Moscow, Leningrad, Kiev, Sochi, Sukhumi, Tashkent, and Samarkand, in each of which they visited medical facilities of almost every kind.

The physicians were impressed by the advances which had been made in the U.S.S.R. during the past 40 years in the fields of education, preventive medicine, and medical care. Most striking today is the magnitude of government support for education and the high prestige accorded Soviet teachers, physicians, and scientists.

Medical care is "as free as air" and preventive medicine is extremely comprehensive. The standard of patient care in hospitals is not as high as that in the United States, but a fair level of care is available to everyone, and the more complicated cases are referred to speciality institutes in the larger cities.

The group was received cordially in the U.S.S.R. and everything possible was done to make their visit enjoyable and profitable. They returned convinced of the value of such exchanges for the improvement of international understanding, but realized that most of the people with whom they came in contact had little or no voice in the government of their country.

UNIVERSITY COMMITTEE ON ATMOSPHERIC RESEARCH

With the encouragement of the Committee on Meteorology, the University Committee on Atmospheric Research (UCAR) was formed on February 28, 1958, at the University of California at Los Angeles. The membership of the Committee is comprised of the chairmen, or their designees, of university departments of meteorology plus one representative from a university active in the physics of the high atmosphere. At the present time, 15 major universities are represented on the Committee, and Henry G. Houghton of the Massachusetts Institute of Technology is serving as chairman.

Since its formation UCAR has met twice, once at the University of Wisconsin, March 28 and 29, and again at the Academy–Research Council, May 22 and 23. During these meetings the Committee formed working groups to deal with university research, scientific manpower, and the establishment of a National Institute of Atmosphere Research.

The first progress report of UCAR, released in June, contained the following recommendations with regard to the problem of research in atmospheric sciences at universities:

1) that the annual budget for atmospheric research at the universities be increased immediately by $1,500,000 to $2,000,000 and that these funds be used to stabilize and strengthen present university research programs;

2) that the government agencies supporting atmospheric research make budgetary plans to increase the support of fundamental atmospheric research at universities so that it will reach about double the current level in three to five years; and

3) that the contractual arrangements through which government agencies support basic atmospheric research at universities be modified so as to provide long-term stability, to reduce fractionation, to eliminate the direct impact of practical military and civilian requirements on basic research, and to provide greater flexibility in the use of funds.

To provide the necessary trained and skilled scientific personnel for future expansion of research, UCAR has proposed that the American Meteorological Society with the support of the National Science Foundation undertake a program of visiting lec-

tureships at colleges and universities during the fall of 1958 to demonstrate the vitality of the atmospheric science and to make known to graduate students and research personnel the wide range of opportunities.

The report also listed several principles which should govern the operation of a National Institute of Atmospheric Sciences. Among these were the following:

1) the Institute should be operated and controlled by a corporation of interested universities;
2) it should be open to qualified scientists from all universities and other agencies on an equal basis and, due to the global nature of the problems, this should include foreign scientists as well;
3) the emphasis of the work should be on basic research and particularly on those aspects which are of such magnitude as to be presently beyond the capabilities in scope and the facilities of individual university departments; and
4) the activities of the Institute should be organized in such a way that the programs of the universities will be strengthened and supported.

On July 18 and 19, high administrative and responsible scientific university personnel from many universities met with UCAR at Pennsylvania State University to form a university corporation which will serve as the official agency through which other universities and agencies will cooperate in the research programs and development of a National Institute of Atmospheric Research. Meanwhile Dr. Houghton, Chairman of UCAR, has met with the Committees on Meteorology and Oceanography of the Academy–Research Council, and UCAR expects to continue close liaison with these two committees.

NEW DIVISION CHAIRMEN

Detlev W. Bronk, President of the National Academy of Sciences has announced the appointment of the following chairmen of Divisions of the Academy–Research Council.

JOHN N. ADKINS, Division of Earth Sciences
NEAL E. MILLER, Division of Anthropology and Psychology
H. BURR STEINBACH, Division of Biology and Agriculture
ERNEST H. VOLWILER, Division of Chemistry and Chemical Technology.

Dr. Adkins, Director of Earth Sciences, Office of Naval Research, has been appointed for a two-year period beginning July 1. He succeeds Harry H. Hess of Princeton University, who will continue to serve as Past Chairman of the Division. Dr. Adkins received his Ph. D. degree in seismology from the University of California in 1939. During 1941–45 he was with the war research division of Columbia University; in 1945–46 he was supervisor of the antenna section, Airborne Instruments Laboratory, Inc.; and from 1946–48 was assistant professor of geophysics at Massachusetts Institute of Technology. Since that time he has been with the Office of Naval Research.

Dr. Miller, James Rowland Angell Professor of Psychology at Yale University, has also been appointed for a two-year term beginning July 1, succeeding Clyde Kluckhohn of Harvard University. An experimental psychologist, Dr. Miller received his Ph. D degree from Yale University in 1935. After a year as a Social Science Research Council Fellow at the Vienna Psychoanalytic Institute in Austria, he joined the Institute of Human Relations at Yale University. Except for a 4-year tour of duty with the Army Air Corps from 1942 to 1946, he continued his association with the Institute until 1950, when he became professor of psychology at Yale. In 1956 he received the Newcomb Cleveland Prize of the American Association for the Advancement of Science for a series of laboratory experiments combining psychological with physiological and pharmacological techniques in a broad analysis of motivation.

Dr. Steinbach, head of the Department of Zoology at the University of Chicago, succeeded L. A. Maynard, professor emeritus, Graduate School of Nutrition, Cornell University, as Division Chairman on July 1. He received his Ph. D. degree from the University of Pennsylvania in 1933. Following a period of post-doctoral research at the University of Chicago, he taught at the University of Minnesota, Columbia University, and Washington University in St. Louis. In 1947 he returned to the University of Minnesota as full professor and remained there for 10 years. He was appointed to his present position at the University of Chicago in 1957. Dr. Steinbach played an

important role in the organization of the American Institute of Biological Sciences, serving as its first Executive Secretary in 1947, when the organization was part of the Academy–Research Council. He has been associated with various activities of the Division of Biology and Agriculture ever since that time.

The appointment of Dr. Volwiler, president and general manager of Abbott Laboratories, as Division Chairman to succeed Frederick D. Rossini of the Carnegie Institute of Technology, was for a two-year term beginning July 1. He received his Ph. D. degree from the University of Illinois in 1918 and the same year joined the Abbott Laboratories, an association which has continued to the present. He has received wide recognition in the scientific community for his outstanding contributions to medicinal chemistry. Recently he was named to receive the famed Priestley Medal of the American Chemical Society.

Dr. Volwiler has served as chairman of the U. S. delegation to the 16th Conference of the International Union of Pure and Applied Chemistry (IUPAC) in 1951. He was a member of the Bureau of IUPAC through 1955 and was named a U. S. delegate to the 19th Conference of IUPAC in 1957.

1959–60 FULBRIGHT AWARDS

The Committee on International Exchange of Persons of the Conference Board of Associated Research Councils is now accepting applications for university lecturing and advanced research awards for the 1959–60 academic year in the following countries: Austria, Belgium and Luxembourg, Republic of China, Denmark, Finland, France, Germany, Greece, Iceland, Iran, Ireland, Israel, Italy, Japan, Netherlands, Norway, Turkey, United Kingdom, and the British Colonial Territories—Africa, West Indies, Malta, Singapore, and Hong Kong.

The closing date for receipt of applications is October 1. Detailed program information and application forms may be obtained from the Committee on International Exchange of Persons, Academy–Research Council.

SYMPOSIUM ON NAVAL HYDRODYNAMICS

The Division of Physical Sciences and the Committee on Undersea Warfare together with the Office of Naval Research are sponsoring a Second Symposium on Naval Hydrodynamics to be held, August 25–29, in the General Services Administration Auditorium, Washington, D. C. The particular subjects selected for the symposium are aero- and hydrodynamic noise, and supercavitating and ventilated flows. These topics, chosen because of their rapidly increasing practical importance and the high level of current research activity, will be covered comprehensively by 19 papers delivered by foreign and American scientists.

The calendar of the meeting is as follows: invited papers on noise, August 25 and 26; tours, demonstrations, and banquet, August 27; invited papers on cavity flows, August 28 and 29. All meetings are open to the scientific public. Additional information about the symposium may be obtained from George W. Wood, Division of Physical Sciences, Academy–Research Council.

INTERNATIONAL GEOLOGICAL CONGRESS

The 21st International Geological Congress will be held in Copenhagen, August 15–25, 1960, following the International Geographical Congress in Stockholm. The Congress will be sponsored jointly by the five Nordic countries: Denmark, Finland, Iceland, Norway, and Sweden. Prior to and following the formal Congress sessions in Copenhagen, the participants will be offered a wide range of field excursions to Scandinavian countries, Iceland, and Greenland.

The American Geological Institute has established close liaison with the European Traveling Seminar, the agency designated by the Organizing Committee for the Geological Congress to handle travel arrangements for the geologists from the United States and Canada. Persons requesting the First Circular will subsequently receive travel literature. Copies of the First Circular may be obtained from the American Geological Institute, C/o Congress Travel, Academy–Research Council.

AMERICAN GEOLOGICAL INSTITUTE

The American Geological Institute has received a grant from the National Science Foundation to support a program of Russian translations. Abstracts of papers will be translated from the geology section of the Russian abstract journal *Referativny Zhurnal*, and two books, one on facies studies and the other on tectonics, will also be translated and published.

As part of the program the Institute will launch the *International Geology Review*. The new journal will present condensed and full translation of noteworthy papers from various foreign languages, especially Russian, will carry translation news, and from time to time will publish original articles by prominent foreign scientists.

To provide a clearinghouse for information about translations in the earth sciences, the Institute is establishing a Translation Center at Columbia University under the direction of Rhodes W. Fairbridge, Chairman of the Translations Committee of the American Geological Institute.

Under another grant from the National Science Foundation, the Institute is conducting a world survey of the interest in and feasibility of establishing an *International Journal of Geological Abstracts*. The Institute is making survey for the Commission on an International Abstracting Service, appointed by the 20th International Geological Congress held in Mexico City in September 1956. H. M. E. Schurmann, the prominent Dutch geologist, is president of the Commission, and the editorial offices of the journal, if started, will be in Holland.

GRANTS-IN-AID OF RADIOLOGICAL RESEARCH

On behalf of the James Picker Foundation, the Committee on Radiology of the Division of Medical Sciences, has awarded 10 grants in radiological research for the academic year 1958–59 to the following investigators:

Tawan S. Bunnag (M.D., University of the Philippines, 1936)
Investigation of percutaneous splenic portography as a means of locating sites of intrahepatic pathology – Chulalongkorn Medical School, Bangkok, Thailand.

John A. Evans (M.D., New York University Bellevue College of Medicine, 1948)
Continuation of radioactive diodrast renogram study–Cornell University Medical College.

Harry W. Fischer (M.D., University of Chicago School of Medicine, 1945)
Continuation of work on the radiographic visualization of lymph nodes and lymphatics–State University of Iowa School of Medicine.

Erling Hammer-Jacobsen (M.D., University of Copenhagen, 1955)
Continuation of survey of doses to human gonads in diagnostic radiology–University Hospital of Copenhagen, Denmark.

Philip M. Johnson (M.D., Columbia University, 1951)
Study of sulfanilamide absorption and resultant metabolic alterations in patients undergoing bronchography with Visciodol–University of North Carolina School of Medicine.

Theodore E. Keats (M.D., University of Pennsylvania School of Medicine, 1947) and Gwilym S. Lodwick (M.D., State University of Iowa School of Medicine, 1942)
Investigation of cineradiographic and high speed angiographic techniques–University of Missouri School of Medicine.

J. Stauffer Lehman (M.D., Hahnemann Medical College, 1931)
Continuation of studies on the visualization of the aortic, mitral, tricuspid, and pulmonary valves, and of the coronary arteries–Hahnemann Medical College and Hospital of Philadelphia.

Edward B. D. Neuhauser (M.D., University of Pennsylvania, 1934) and Abraham M. Rudolph
Study of the radiological features of the pulmonary vascular system–Children's Medical Center, Harvard Medical School.

Samuel Schorr (M.D.)
Continuation of studies on the use of Alizarin in the hope of improving the diagnosis and treatment of cancer in bone–Hadassah Hospital, Tel Aviv, Israel.

Theodore A. Tristan (M.D., University of Nebraska College of Medicine, 1950)
Cinefluorographic analysis of gastrointestinal function–University of Rochester School of Medicine and Dentistry.

CONFERENCE ON THE MATHEMATICS OF QUANTUM THEORY

A Conference on the Mathematics of Quantum Theory was held at Arm's Head Inn, Shelter Island, N. Y., June 3–6. The conference was sponsored by the Division of Mathematics and organized by the following committee: K. O. Friedrichs, New York University, *Chairman;* V. Bargmann,

Princeton University; E. J. McShane, University of Virginia; and I. E. Segal, University of Chicago. Twenty-five mathematicians and physicists from 15 institutions participated in the meeting.

The principal aim of the conference was to establish a closer understanding between a number of physicists who are primarily concerned with problems of the mathematical foundations of the quantum theory of fields and those mathematicians whose scientific work is concerned with the mathematical questions involved.

The following lectures form the basis of the discussion:

Introduction to the Problems of Quantum Theory of Fields, by A. S. Wightman

Axiomatization of the Notion of Local Fields, by A. S. Wightman

Local Fields and the Scattering Problem, by R. Haag

Construction of Field Operators to a Given S-matrix, by W. Zimmermann

On the Problem of Renormalization and the Lee Model, by K. O. Friedrichs

Some Mathematical Aspects of Quantum Field Theory, by G. W. Mackey

Hermite Functionals and Nonlinear Processes, by N. Wiener

The Feynman Integral in Field Theory, by B. Zumino

On a Theorem of Loewner and the Problems of Causality, by S. Sherman

Renormalization for a Field in Interaction with a Localized Fermion, by K. O. Friedrichs

BUILDING RESEARCH INSTITUTE

The Board of Governors of the Building Research Institute has announced the election of Charles H. Topping, Senior Architectural and Civil Consultant for E. I. du Pont de Nemours & Co., Inc., to a second term as President and the election of Harold L. Humes, Baldwin-Hill Company, to a second term as Vice President.

In addition to the officers, the following new members were appointed to the 28-man Board of Governors:

F. J. Close, Aluminum Company of America
Leon Chatelain, American Institute of Architects
George S. Goodyear, National Association of Home Builders
Mason G. Lockwood, Lockwood, Andrews and Newman
James R. Price, National Homes Corporation

Others reappointed to serve additional 3-year terms are: C. P. Bobe, Bobe Electric Company; John F. Hennessy, Syska & Hennessy, Inc.; Otto Nelson, Jr., New York Life Insurance Company; and Charles H. Topping.

ADVISORY COMMITTEE ON SHELTER HABITABILITY

The Disaster Research Group, with the help of consultants and an ad hoc Advisory Committee on Shelter Habitability, is providing advice and assistance to the Office of Defense and Civilian Mobilization (ODCM) under a contract with that agency by defining the human problems of shelter occupancy and determining useful research approaches to their solution. The Advisory Committee, which held its first meeting, June 12 and 13, at the ODCM offices in Battle Creek, Mich., is composed of the following members:

John K. Hemphill, Educational Testing Service, *Chairman*
Albert D. Biderman, Falls Church, Va.
Robert L. French, the Psychological Corporation
John L. Kennedy, Princeton University
Donald N. Michael, Dunlap and Associates, Inc.
Delbert C. Miller, Pennsylvania State University
John H. Rohrer, Georgetown University
John P. Spiegel, Harvard University

Samuel Guskin, Research Assistant with the Disaster Research Group and Postdoctoral Resident of the Russell Sage Foundation, is working almost full time on shelter problems. Mr. Biderman, a sociologist, and Dr. Rohrer, a psychologist, are serving as consultants.

STAFF APPOINTMENTS

Monroe H. Martin, Director of the Institute for Fluid Dynamics and Applied Mathematics at the University of Maryland, has again been appointed Executive Secretary of the Division of Mathematics for the year beginning July 1, succeeding **Harold W. Kuhn** of Bryn Mawr College, who has been awarded a senior postdoctoral fellowship by the National Science Foundation for a year's study and research at the London School of Economics.

Dr. Martin previously served as Executive

Secretary of the Division from July 1955 to July 1957. (*See* NEWS REPORT, Vol. 5, p. 68). Last summer he was chairman of the arrangements committee for a seminar in applied mathematics conducted by the American Mathematical Society in Boulder, Colo., and at present is chairman of the Division's Committee on Applications of Mathematics.

Allen Abrams has been appointed Chairman of the Advisory Board on Quartermaster Research and Development effective July 1, succeeding **Raymond Stevens,** president of the Arthur D. Little Company, Cambridge, Mass. Until his recent retirement, Dr. Abrams was vice president in charge of research and development of the Marathon Corporation in Rothschild, Wis.

The Offce of International Relations announces that **Joel Orlen** has joined its staff as a Professional Associate to assist in the arrangements for the exchange of scientists with other countries. Before coming to the Academy-Research Council, Mr. Orlen worked for the Division of International Affairs of the Atomic Energy Commission helping to set up the International Atomic Energy Agency, and prior to that he spent three years with the U.S. Department of State working on disarmament and the peaceful uses of atomic energy.

Gilbert W. Beebe has been given a leave of absence from the Division of Medical Sciences to serve for two years as Chief of Biostatistics in the Atomic Bomb Casualty Commission, Hiroshima, Japan. Dr. Beebe's tour of duty is the first under a new agreement by which the Division's Follow-up Agency will fill this position on a rotating basis. To strengthen the Agency's staff for this purpose two professional assistants have been appointed: **M. Dean Nefzger** and **Robert J. Keehn.** Dr. Nefzger, who received his doctorate in psychology and statistics from the State University of Iowa, was awarded a research fellowship at Roswell Park Memorial Institute in 1957 after two years as Assistant Professor at the University of Buffalo. Mr. Keehn majored in mathematics at Hartwick College and holds an M. S. degree in hygiene from the Johns Hopkins University; since 1953 he has been Director of the Bureau of Vital Statistics of the State of Connecticut.

Stuart M. Charlesworth has been appointed Assistant Executive Secretary of the Division of Engineering and Industrial Research effective July 15. Mr. Charlesworth retired recently after 22 years of service in the U.S. Marine Corps with the rank of Brigadier General. He received his B. S. degree in mechanical engineering from the University of North Dakota in 1936, his M. S. degree in personnel administration and training from Ohio State University in 1951, and a diploma from the U.S. Naval War College in 1958.

Mr. Charlesworth's duties in the office of the Division Chairman will include some of the administrative responsibilities that were formerly assigned to **C. Dake Gull,** who resigned in February to become Information Systems Analyst with the General Electric Company in the Computer Department of the Engineering Section.

The Committee on Undersea Warfare has announced the appointment of **John Cooper** as technical assistant. Mr. Cooper is a graduate of the College of William and Mary where he majored in physics. Prior to coming to the Academy–Research Council he served a a graduate assistant in physics at Georgetown University.

Leland C. Allen, on leave from the Materials Research Laboratory of the Ordnance Materials Research Office in Watertown, Mass., has been acting as a consultant to the Committee on Undersea Warfare for the past two months. Dr. Allen, who received his Ph.D. degree from the Massachusetts Institute of Technology, has specialized in solid state and molecular theory.

The Academy–Research Council has announced the appointment of **Carroll Wolfinger** as Manager of Printing and Publishing. Mr. Wolfinger has a professional background of 24 years' experience in printing and typesetting management. Before joining the Academy–Research Council staff, he was vice president and Washington representative of Monsen Typographers, Inc., for 11 years.

As part of the reorganization and expansion of the publications procedures **Josephine Andoe Williams,** formerly Director of Publications, will become Publications Editor in the new Office of Information.

FELLOWSHIP PROGRAMS

DONNER FELLOWSHIPS IN MEDICAL RESEARCH

Upon recommendation of the Fellowship Board of the Division of Medical Sciences, nine young scientists in the United States and Canada have been awarded fellowships for the coming year. The Donner Fellowships for medical research were initiated in 1957 through the financial support and interest of the Donner Foundation of Philadelphia as a part of its efforts in advancing medical science.

The names of the appointees, the institutions from which they received their doctorates, and the nature and location of their programs of study are as follows:

Arthur S. Brill (Ph.D., University of Pennsylvania, 1956)
Paramagnetic resonance studies of transition element-containing compounds—Clarendon Laboratory, Oxford University, England, with B. Bleaney.

Billy Gene Crouch (Ph.D., University of Tennessee, 1958)
Cell and tissue transplantation in monkeys subjected to whole-body x-irradiation—National Defense Research Council, Rijswijk, Netherlands, with J. S. Cohen and D. W. van Bekkum.

Walter Feder (M.D., State University of New York College of Medicine, 1955)
Blood flow in normal and pathologic states—University of Chicago Clinics, with Emmet B. Bay.

Gerd Froese (Ph.D., University of Western Ontario, 1958)
Investigation of the synergistic effects of high O_2 tension and radiation on the metabolism and reactivity of cells—Max Planck Institute for Biophysics, Frankfurt, Germany, with B. Rajewsky.

Julius Gordon (Ph.D., McGill University)
Mechanisms in transplantation and tumor immunology—Chester Beatty Research Institute, London, England, with Alexander Haddow.

Eugene Meerovitch (Ph.D., McGill University, 1957)
Study of the application of tissue culture methods to the cultivation of parasitic amoebae—National Institute for Medical Research, London, England, with F. Hawking.

Robert A. Meigs (Ph.D., Harvard University, 1958)
In vitro studies on the metabolism of aldosterone—Middlesex Hospital Medical School, London, England, with J. F. Tait.

Lewis I. Pizer (Ph.D., University of California, 1958)
Investigation of protein synthesis in phage-infected bacteria—University of Pennsylvania, with S. S. Cohen.

Wesley C. Wilcox (Ph.D., University of Washington, 1958)
Microepidemiology of virus infections—Western Reserve University School of Medicine, with Harold S. Ginsberg.

AWARDS IN RADIOLOGICAL RESEARCH

Since 1950 the James Picker Foundation, with the cooperation of the Academy–Research Council, has supported a program of research grants and fellowships designed to foster research and broaden the scope of radiology. Upon recommendation of the Committee on Radiology, the Picker Foundation has awarded six fellowships and one scholar grant for the academic year, 1958–59. The names of the recipients, the institutions from which they received their degrees, and the nature and location of their research are as follows:

Fellowships

John B. Christensen (M.S., University of Oklahoma School of Medicine, 1955)
Roentgen anatomical studies on cranial sutures—University of Oklahoma Medical School, with Ernest Lachman.

Robert H. Greenlaw (M.D., University of Rochester School of Medicine, 1952)
Development of a scintillation scanning method for the diagnosis of pancreatic tumors—University of Rochester Medical Center, with Philip Rubin.

Anssi Pekka Soila (M.D., University of Helsinki, Finland, 1951)
Continuation of studies on rheumatoid arthritis and other connective tissue diseases by pantomography—University of Turku, Finland, with Carl Wegelius.

Gaston R. Vantrappen (M.D., University of Louvain, Belgium, 1953)
Application of fluorocinematography to the study of gastrointestinal and biliary tract motor physiology and the radiological visualization of the pancreas by selective arteriography—Northwestern University Medical School, with E. Clinton Texter, Jr.

Hans Ludin (M.D., University of Fribourg, Switzerland, 1954)
Continuation of study of special x-ray techniques to visualize the pancreas and to undertake improvement of the x-ray diagnosis of lesions in the tracheo-bronchial tree—New York Hospital, with John A. Evans (extension).

Alphonse Paulbinskas (M.D., Harvard Medical School, 1952)
Continuation of study of the newer radiological diagnostic techniques—University Clinics, Lund, Sweden, with Olle Olsson (extension).

Grant for Scholar

Eugene C. Klatte (M.D., Indiana University, 1952)
Determination of whether image amplification and cinefluorography in selective angiocardiography can be adapted to clinical diagnosis—Indiana University Medical Center.

AWARD OF FELLOWSHIPS IN MEDICAL SCIENCES

Upon the recommendation of the Fellowship Board of the Division of Medical Sciences, 18 young scientists in the United States and Canada have been awarded National Research Fellowships in the Medical Sciences for the coming academic year. These fellowships are supported by the Rockefeller Foundation and the John and Mary R. Markle Foundation as a part of their efforts in advancing medical science and are administered by the Academy–Research Council.

The following list gives the names of the recipients, the institution from which they received their doctorates, as well as the location of their programs of study:

Peter Z. Allen (Ph.D., in process, Columbia University)
Studies of chemically modified amyloses as a means of determining starch carbohydrase specificity—Lister Institute, London, England, with W. J. Whelan.

Olga O. Blumenfeld (Ph.D., New York University, 1957)
Continuation of studies on the relationship of structure and biological activity in pepsin—Rockefeller Institute for Medical Research, with Gertrude E. Perlmann.

Joseph E. Bogen (M.D., University of Southern California, 1956)
Study of the mechanism of action of bulbocapnine—California Institute of Technology, with A. van Harreveld.

James W. Campbell (Ph.D., University of Oklahoma, 1958)
Studies on beta-alanine metabolism in cestodes —Johns Hopkins University, with Clark P. Read.

Joseph E. Coleman (M.D., University of Virginia, 1957)
Study of metalloenzymes—Peter Bent Brigham Hospital, Boston, with Bert L. Vallee.

Bernard A. Cooper (M.D.C.M., McGill University, 1953)
Continuation of studies on vitamin B_{12} absorption and metabolism—Royal Victoria Hospital, Montreal, with Louis Lowenstein and R. V. Christie.

Jacob D. Duerksen (Ph.D., in process, University of Wisconsin)
Investigation of the mechanism of specific enzyme synthesis (penicillinase) in bacteria—Medical Research Council, National Institute for Medical Research, London, England, with M. R. Pollock.

Robert S. Edgar (Ph.D., University of Rochester, 1957)
Continuation of study of the mechanism of recombination in bacteriophage—California Institute of Technology, with M. Delbrück.

John B. Fotheringham (M.D.C.M., McGill University, 1954)
Investigation of the action of drugs on metabolites formed in the brain—University of Toronto, with H. Cullumbine.

Richard T. Jones (M.D., University of Oregon, 1956)
The chromatographic separation and chemical characterization of the various components of normal and abnormal (sickle cell) hemoglobins —California Institute of Technology, with W. A. Schroeder and Linus Pauling.

Jack L. Kostyo (Ph.D., Cornell University, 1957)
Continuation of investigation of the mechanism of action of anterior pituitary hormones in primates—Harvard Medical School, with Ernest Knobil.

Hans Laufer (Ph.D.), Cornell University, 1957)
Immunochemical studies of regeneration and protein synthesis—Carnegie Institution of Washington, with James D. Ebert.

Franklin R. Leach (Ph.D., University of Texas, 1957)
Continuation of inquiries into the relation of amino acids and peptides to assimilation and protein synthesis in lactic acid bacteria—University of California at Berkeley, with Esmond E. Snell.

Royce Z. Lockart, Jr. (Ph.D., University of Washington, 1957)
Continuation of investigation of the metabolic aspects of the interference phenomenon in tissue culture—National Institutes of Health, with Harry Eagle.

Lewis N. Lukens, III, (Ph.D., University of Pennsylvania, 1958)
Studies of a model sytem for enzymatic hydrolysis—Columbia University, with Ronald Breslow.

William L. McLellan, Jr. (Ph.D., Boston University, 1957)
Investigation of pathway of carbohydrate metabolism in the erythrocyte—National Institutes of Health, with Bernard L. Horecker.

Martin J. Nemer (Ph.D., Harvard University, 1958)
The quantitative aspects of special metabolic systems with respect to embryological development—University of Brussels, Belgium, with Jean Brachet.

Edward S. Reynolds, Jr. (M.D., Washington University, 1954)
Studies on the changes in metal content of subcellular rat liver fractions with disease—Peter Bent Brigham Hospital, Boston, with Bert L. Vallee.

NATIONAL SCIENCE FOUNDATION POSTDOCTORAL FELLOWSHIPS

The National Science Foundation has announced a second award period for postdoctoral fellowships in science. These fellowships for advanced training and study will be awarded in the mathematical, physical, medical, biological and engineering sciences, including anthropology, psychology, and the following social sciences: geography, mathematical economics, econometrics, demography, information and communication theory, experimental and quantitative sociology, and the history and philosophy of science. Individuals who have obtained a Ph.D., M.D., D.D.S., or D.V.M. degree are eligible to apply.

The Fellowship Office of the Academy–Research Council will receive the applications for these fellowships, evaluate them through its fellowships boards, and nominate candidates to the National Science Foundation.

The deadline for the receipt of applications is September 2. Application forms and additional information may be obtained from the Fellowship Office, Academy–Research Council, Washington 25, D. C.

RECORD OF MEETINGS

May	
1	Committee for Research in Problems of Sex
	Committee on Urban Research, Planning Committee
2	Committee in Basic Research, Advisory to the Office of Ordnance Research
4	USA National Committee, International Union of Pure and Applied Physics
	Committee on Physics, Advisory to the National Bureau of Standards
	Subcommittee on Blood and Related Problems, *Atlantic City*
4	American Geophysical Union, Executive Committee
5	Panel on Ocean Resources, *New York City*
5–8	American Geophysical Union, Annual Meeting
6	Committee on Civil Engineering, Advisory to the National Bureau of Standards
7	Building Research Conference on the Luminous Environment, Planning Committee, *Cleveland*
8–9	Panel on New Devices for Exploring the Ocean, *Woods Hole, Mass.*
9	Committee on Polar Research
	Subcommittee on Measurement and Standards of Radioactivity, *Lemont, Ill.*
11	Institute of Laboratory Animal Resources, Subcommittee on Primates
12	Committee on Urban Research, Planning Committee
14	Highway Research Board, Department of Economics, Finance, and Administration, Subcommittee
14–15	Committee on Foods, Subcommittee on Acceptance, *Chicago*

May	
15	Subcommittee on Pile Bearing Capacity, *Cincinnati*
15–16	Advisory Committee on Civil Defense
16	Subcommittee on Trauma
17	Committee on Mathematical Films and Television
18–19	Food Protection Committee, *Urbana, Ill.*
19	Institute of Laboratory Animal Resources, Subcommittee on Production
	Committee on Electronic Computers in Medical Reearch
	Panel on Sarcoidosis, *Philadelphia*
	Federal Construction Council, Operating Committee
20	Advisory Board on Education
	USA National Committee, International Scientific Radio Union
	Subcommittee on Food Sanitation
	Brittle Fracture Mechanics Advisory Committee, *Providence, R. I.*
22	Special Study Group on Perspectives in Metallurgy
22–24	University Committee on Atmospheric Research
23	Subcommittee on Nutrition, *Chicago*
23–24	Committee Advisory to the U. S. Army Chemical Corps
24	Subcommittee on Fruit and Vegetable Products, *Chicago*
26	Federal Construction Council, Task Group on Movable Partitions vs. Permanent Partitions
	Fire Research Conference
26–27	Special Advisory Committee on Structural Design of Slab-on-Ground Construction
27–28	Prevention of Deterioration Center, Scientific Advisory Committee

May

28 — Committee on Foods, *Chicago*
Advisory Committee for Crack Arrestor Project

28–29 — Federal Construction Council, Task Group on Underground Heat Distribution Systems

29 — Subcommittee on Food Technology, *Chicago*
Committee on International Exchange of Persons, Subcommittee on Program Planning and Development

June

2 — Subcommittee on Waste Disposal
Subcommittee on Atmospheric and Industrial Hygiene

3 — Committee on Sanitary Engineering and Environment
Federal Construction Council Task Group on Cathodic Protection as Applied to Underground Metal Structures
Committee on Toxicology
Committee on Refractory Metals

3–6 — Conference on Mathematics of Quantum Theory, *Shelter Island, Long Island*

4 — Panel on New Devices for Exploring the Ocean
Committee on Toxicity of Beryllium
Committee on Containers, *Chicago*

4–5 — Federal Housing Administration, Advisory Committee for Technical Studies

5 — Materials Advisory Board, Committee on Dissemination of Technical Information
Committee on Ultrasonics
Advisory Committee to the Federal Construction Council Agency Administrators

5–6 — Committee on Large Solid Propellant Motors
Subcommittee on High Level Dosimetry, *Menlo Park, Calif.*
Committee on International Exchange of Persons

6 — Armed Forces–National Research Council Committee on Hearing and Bio-Acoustics

7 — Committee on Revision of Mathematical Tables

9 — Committee on Development of Manufacturing Processes for Aircraft Materials, Sub-panel on Rolling, Cold Forming, and Cold Extrusion, *Dayton, Ohio*

9–13 — Conference on Magnetohydrodynamics, *Woods Hole, Mass.*

10 — Committee on Medicine and Surgery
Federal Construction Council, Task Group on Thermal Insulation and Waterproofing Materials for Hot and Refrigerated Piping

June

11 — Committee on Veterans Medical Problems
Sub-panel on Heat Treatment of Titanium Alloy, *Chicago*

11–14 — Prosthetics Research Board, Annual Assembly

12 — Committee on Development of Manufacturing Processes for Aircraft Materials, Sub-panel on Machine Tools and Machining Processes, *Dayton, Ohio*

12–13 — Advisory Committee on Shelter Habitability, *Battle Creek, Mich.*

13 — Office of Scientific Personnel, Advisory Committee

14 — Division of Earth Sciences, Executive Committee

15 — National Academy of Sciences–National Research Council, Governing Board

16 — USA National Committee, International Union of Crystallography, *Milwaukee*

16–17 — Advisory Committee on Civil Defense

17 — Panel on Plasma

17–20 — Organization of American States, Advisory Committee on Science Development

18 — Subcommittee on Shock
Subcommittee on Subsistence, Packaging, *Chicago*

18–19 — Subcommittee on Physical and Thermal Properties of Ducts for Heating and Air Conditioning
Panel on Ocean Resources, *New York City*

20 — Committee on International Anthropology, *Palo Alto, Calif.*
Government-Industry Joint Meeting on Air-Conditioning Design

21–24 — Committee on Oceanography, *Woods Hole, Mass.*

23 — Committee on Amino Acids

26 — Federal Construction Council, Operating Committee
Conference on Integrated Ceiling Systems, Planning Committee

27 — Materials Advisory Board, Committee on Dissemination of Technical Information, *Columbus, Ohio*
Committee on Dentistry

27–28 — Highway Research Board, Executive Committee, *Charleston, S. C.*
Committee on International Exchange of Persons, Pakistan Orientation Meeting

30 — Committee on Meteorology
Committee on International Exchange of Persons, Advisory Committee on South America

30–July 1 — Committee on Development of Manufacturing Processes for Aircraft Materials, Sub-panel on Sandwich Materials and Joining, *Dayton, Ohio*

NEW PUBLICATIONS

Conference Board of Associated Research Councils. Committee on International Exchange of Persons. *General Information, U. S. Government Grants Under the Fulbright and Smith-Mundt Acts. University Lecturing, Advanced Research.* Washington, 1958. 20 p.

Danzig, Elliott R., *et al. The Effects of a Threatening Rumor on a Disaster Stricken Community.* Washington, NAS–NRC, 1958. (NAS–NRC Publication 517. Disaster Research Group, Disaster Study no. 10.) 116 p. $2.00.

Edmondson, Hugh A. *Tumors of the Liver and Intrahepatic Bile Ducts.* Washington, Armed Forces Institute of Pathology, 1958. (*Atlas of Tumor Pathology.* Section VII, Fasc. 25.) 216 p., illus. $2.25. (Available from: American Registry of Pathology, Armed Forces Institute of Pathology, Washington 25, D. C.)

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Notice of Academy Meetings

NATIONAL ACADEMY OF SCIENCES

Autumn Meeting, University of California at Berkeley, November 6–8, 1958
Annual Meeting, Washington, D. C., April 27–29, 1959

NATIONAL ACADEMY OF SCIENCES–NATIONAL RESEARCH COUNCIL

Governing Board, Washington, D. C., October 12, 1958

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